AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1. (Currently amended) A pump for generating fluid flow in an elastic tubular conduit having a lumen, comprising:

(a) four electrically operated valves, each valve being positionable adjacent to the conduit, each valve having a valve head, the valve head configured to alternate from a first position in which the lumen of the conduit adjacent to the valve head is unobstructed and a second position in which the lumen of the conduit adjacent to the valve head is obstructed; [[and]]

(b) a driver, ~~comprising at least one electromagnet,~~ configured to control the positions of the valve heads, so as to execute [[the]] a predetermined temporo-spatial array of valve head positions ~~of FIG. 4~~; and

(c) an anti-free flow device, which is operative to prevent the fluid flow through the conduit when the conduit is being inserted into or removed from the pump.

Claim 2. (Withdrawn and Currently amended) The pump according to [[Claim]] claim 1, wherein the valve heads have a first dimension positionable perpendicular to the axis of the conduit and a second dimension positional parallel to the axis of the conduit, the second dimension of all of the valve heads being equal.

Claim 3. (Withdrawn and Currently amended) The pump according to [[Claim]] claim 1, wherein the valve heads have a first dimension perpendicular to the axis of the conduit and a second

dimension parallel to the axis of the conduit, and wherein the second dimensions are not all equal or the shape of the valve heads are not all the same.

Claim 4. (Withdrawn and Currently amended) The pump according to [[Claim]] claim 1, having a base configured to maintain a segment of the conduit in a straight line or in an S shape.

Claim 5. (Currently amended) The pump according to [[Claim]] claim 1, wherein the tubular conduit is held in a sleeve.

Claim 6. (Canceled)

Claim 7. (Currently amended) The pump according to [[Claim]] claim 1, wherein one or more valve heads [[is]] are oblique to the conduit.

Claim 8. (Currently amended) The pump according to [[Claim]] claim 1, further comprising a communications device for transmitting information to a remote receiver.

Claim 9. (Currently amended) A pumping system comprising two or more pumps according to [[Claim]] claim 1.

Claim 10. (Currently amended) The pumping system according to [[Claim]] claim 9, comprising two or more pumps in which at least two pumps are arranged in series.

Claim 11. (Currently amended) The pumping system according to [[Claim]] claim 9, comprising two or more pumps in which at least two pumps are arranged in parallel.

Claim 12. (Currently amended) A driving mechanism for use in a pump ~~according to Claim 1~~ for generating fluid flow in an elastic tubular conduit having a lumen, the pump comprising:

(a) four electrically operated valves, each valve being positionable adjacent to the conduit, each valve having a valve head, the valve head configured to alternate from a first position in which the lumen of the conduit adjacent to the valve head is unobstructed and a second position in which the lumen of the conduit adjacent to the valve head is obstructed; and

(b) a driver, comprising at least one electromagnet, configured to control the positions of the valve heads, so as to execute a predetermined temporo-spatial array of valve head positions, the mechanism comprising:

(a) an X shaped metal lever pivotable around an axis;

(b) A first auxiliary lever pivotable about the axis;

(c) A second auxiliary lever pivotable about the axis;

(d) An intermittently activatable electromagnet generating, when activated, a magnetic field between a first metal core arm and a second metal core arm;

wherein the magnetic field causes rotation of an auxiliary lever about the axis when extremities of the lever arm are not between the first and second core arms so as to bring the extremities between the first and second core arms.

Claim 13. (Currently amended) A pump ~~according to Claim 1 comprising a mechanism~~ for generating fluid flow in an elastic tubular conduit having a lumen, comprising:

(a) four electrically operated valves, each valve being positionable adjacent to the conduit, each valve having a valve head, the valve head configured to alternate from a first position in which the lumen of the conduit adjacent to the valve head is unobstructed and a second position in which the lumen of the conduit adjacent to the valve head is obstructed;

(b) a driver, comprising at least one electromagnet, configured to control the positions of the valve heads, so as to execute a predetermined temporo-spatial array of valve head positions; and

(c) a mechanism comprising:

(a) an X shaped metal lever pivotable around an axis;

(b) A first auxiliary lever pivotable about the axis;

(c) A second auxiliary lever pivotable about the axis;

(d) An intermittently activatable electromagnet generating, when activated, a magnetic field between a first metal core arm and a second metal core arm;

wherein the magnetic field causes rotation of an auxiliary lever about the axis when extremities of the lever arm are not between the first and second core arms so as to bring the extremities between the first and second core arms.

14. (Withdrawn and Currently amended) [[A]] The pump according to [[Claim]] claim 1, comprising:

(a) a lever bar pivotable around an axle, having a first end and a second end;

(b) a first valve head attached to the first end of the lever bar;

(c) a second valve head attached to the second end of the lever bar; and

(d) an electromagnet rotating the lever arm between a first configuration in which the first

valve head is in an up position and the second valve head is in a down position, and a second configuration in which the first valve head is in a down position and the second valve head is in an up position.

Claim 15. (Currently amended) [[A]] The pump according to [[Claim]] claim 1, operated by batteries.

Claim 16. (Currently amended) [[A]] The pump according to [[Claim]] claim 1, comprising a control panel that is detachable from the rest of the pump.

Claim 17. (Currently amended) The pump according to [[Claim]] claim 16, wherein communication between the control panel and the rest of the pump is via an electric cable.

Claim 18. (Currently amended) The pump according to [[Claim]] claim 16, wherein communication between the control panel and the rest of the pump is via a wireless connection.

Claim 19. (Currently amended) The pump according to [[Claim]] claim 1, further comprising a transceiver communicating with a remote station.

Claim 20. (Canceled)

Claim 21. (New) The pump according to claim 1, wherein the anti-free flow device is configured to press upon the conduit so as to occlude the lumen when the device is not inside the pump, and to open when the conduit is inside the pump.

Claim 22. (New) The pump according to claim 21, wherein the anti-free flow device comprises:

a sleeve, which contains a portion of the tube; and

a lever, which is biased by a spring to a position in which the lever presses against the conduit, and which is depressed away from the spring-biased position so as to open the lumen when the sleeve is positioned in the pump.